



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/892,212	06/25/2001	Tony S. Kaushal	005231	1445
32588	7590	07/28/2004	ALRT/ETCH/DRIE	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			EXAMINER MCNEIL, JENNIFER C	
			ART UNIT	PAPER NUMBER
			1775	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/892,212	Applicant(s) KAUSHAL ET AL.	
	Examiner Jennifer C McNeil	Art Unit 1775	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-20, 24 and 26-44 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 24 and 26-29 is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-17, 30-44 is/are rejected.
- 7) ☐ Claim(s) 4, 16, 19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1775

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 30-32, 34, and 40-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Furuse et al (JP 405238855A). Furuse teaches a ceramic coating member comprising a substrate of silicon carbide and a coating comprising yttria.

Regarding the CTE of claims 30-32, as the substrate and the coating are made of compositions commensurate with that of the instant claims, the CTE is fully expected and considered to correspond to that of the instant claims.

Claims 30-37, and 40-44 are rejected under 35 U.S.C. 102(a) as being anticipated by Otsuki (US 2001/0003271). Otsuki teaches a processing apparatus with a chamber and members for work-processing coated with a film of alumina and yttria. The coating has a high-corrosion resistance and insulating property. The chamber may be made of alumina, silica, aluminum nitride, and other ceramics.

Regarding the CTE of claims 30-32, as the substrate and the coating are made of compositions commensurate with that of the instant claims, the CTE is fully expected and considered to correspond to that of the instant claims.

Regarding claims 40-44, the process limitations are not considered to lend structural definition to the article of the claims.

Art Unit: 1775

Regarding the sintered powder limitation, this process limitation is not considered to lend structural definition to the article of the claims.

Claims 30-32, 34-36, and 40-44 are rejected under 35 U.S.C. 102(b) as being anticipated by Sarin (US 5,035,923). Sarin teaches a coating on a silicon carbide substrate. The coating may comprise yttria and alumina.

Regarding claims 40-44, the process limitations are not considered to lend structural definition to the article of the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6-17, and 38-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuki (US 2001/0003271) in view of O'Donnell et al (US 6,613,442). Otsuki teaches a processing apparatus with a chamber and members for work-processing coated with a film of alumina and yttria. The coating has a high-corrosion resistance and insulating property. The chamber may be made of alumina, silica, aluminum nitride, and other ceramics.

Regarding the CTE of claims 1-3, as the substrate and the coating are made of compositions commensurate with that of the instant claims, the CTE is fully expected and considered to correspond to that of the instant claims.

Art Unit: 1775

Otsuki teaches a processing chamber as discussed above including a support made of alumina, silica, aluminum nitride, or other ceramics, but does not specifically name additional ceramics.

O'Donnell teaches a processing chamber similar to that of Otsuki and further teaches that the support may be formed of silicon carbide (SiC). O'Donnell also teaches a boron nitride/yttria coating on the chamber surface. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a support of SiC as taught by O'Donnell as the support material of Otsuki to provide a material known to be useful as a chamber component and is also known to support deposition of a yttria containing coating.

Regarding claims 8 and 35, as stated above, the coating may include alumina.

Regarding claim 10, an intermediate region may be considered the bonding area between the layers.

Regarding claims 12-17, and 38-39, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the coating of Otsuki to any surface of a plasma-processing chamber subject to corrosion during operation. Application of a corrosion-resistant layer serves to prolong the life of the chamber.

Regarding claims 40-44, the process limitations are not considered to lend structural definition to the article of the claims.

Claims 38-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuki (US 2001/0003271). It would have been obvious to one of ordinary skill in the art at the time of the invention to apply the coating of Otsuki to any surface of a plasma-processing chamber subject to corrosion during operation. Application of a corrosion-resistant layer serves to prolong the life of the chamber.

Art Unit: 1775

Allowable Subject Matter

Claims 4, 18, and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 20, 24, and 26-29 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 1-3, 6-8, 9-17, and 30-44 have been considered but are moot in view of the new ground(s) of rejection.

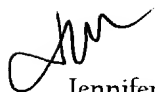
Regarding Otsuka, the process limitation of sintered powder is not considered to lend structural definition to the article of the claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer C McNeil whose telephone number is 571-272-1540. The examiner can normally be reached on 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Deborah Jones can be reached on 571-272-1535. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jennifer McNeil
Primary Examiner